

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of	:	Shafiq Pirbhai et al.
	:	
For	:	MANAGING L3 VPN VIRTUAL
	:	ROUTING TABLES
	:	
Serial No.	:	10/775,214
	:	
Filed	:	February 11, 2004
	:	
Art Unit	:	2445
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Examiner	:	Ryan J. Jakovac
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Att. Docket	:	ALC 3118
	:	
Confirmation No.	:	9972

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

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Sir:

This Pre-Appeal Brief Request for Review is in response to the Office Action dated October 6, 2009, and further to the Notice of Appeal filed concurrently herewith. Applicant hereby requests review of the rejections in the above-identified application in view of the concurrently-filed Notice of Appeal. Claims 1-3, 5, and 8-14 are pending in the present application, of which claim 1 is independent.

On pages 3-6, the Office Action rejects claims 1-3, 5, and 8-14 under 35 U.S.C. § 103(a) as allegedly unpatentable over the combination of RFC-2547-bis in view of RFC-1771. Applicant respectfully submits that the Office Action is in error and requests review and withdrawal of the rejections.

Independent claim 1 recites, in part, the following subject matter: “maintaining an import route target (ImpRT) tree comprising all ImpRT attributes currently configured on said PE router” (emphasis added). The Office Action alleges that PE routers maintain routing information, relying upon pages 9 and 10 of RFC-2547-bis.

Applicant respectfully submits that the Office Action is in error, as there is no indication that RFC-2547-bis uses a single tree to maintain all ImpRT attributes configured on the router. Instead, RFC-2547-bis teaches away from the claimed subject matter because each VRF table would maintain its own ImpRT attribute. The mere indication that each VRF table has an ImpRT attribute is insufficient to teach or suggest a tree including all ImpRTs configured on the router.

Moreover, Applicant refers to section 4.3.2 of RFC-2547-bis, entitled “Route Distribution Among PEs by BGP,” reciting: “if a new Import Target is later added to one of the PE’s VRFs, (a ‘VPN Join’ operation) it must then acquire the routes it may previously have discarded” (emphasis added). Thus, RFC-2547-bis clearly cannot disclose, suggest, or teach the subject matter of having all ImpRT attributes already maintained.

Furthermore, section 4.3.3 of RFC-2547-bis, entitled “Use of Route Reflectors,” states that “by ‘adding a new VPN to a PE’, we really mean adding a new import Route Target to one of its VRFs, or adding a new VRF with an import Route Target not had by any of the PE’s other VRFs.” Applicant respectfully submits that addition of import Route Targets is contrary to the claimed subject matter of maintaining all of the ImpRT attributes.

Independent claim 1 further recites, in part: “searching said ImpRT tree for a match to said modified ImpRT attribute to identify a second VRF table in said PE router having a matching ImpRT attribute” (emphasis added). The Office Action

alleges that “routes leading to a particular CE become associated with a particular routing attribute.”

The references do not support this statement in the Office Action. The cited sections of RFC-2547-bis in no way describe searching a tree that contains all ImpRT attributes to find a second VRF table with a matching attribute. While RFC-2547-bis requires any route to be distributed to every PE router, the claimed system searches the ImpRT list to determine whether another VRF in the same router has the matching ImpRT attribute. This clearly differs from RFC-2547-bis because there is no need to fetch this ImpRT attribute from another router, an operation that would needlessly waste bandwidth.

In section 4.3.5 of RFC-2547-bis, entitled “Building VPNs Using Route Targets,” a hub-and-spoke model appears. Import targets act as spokes attached to an export target hub. Thus, as further described in section 4.3.6. of RFC-2547-bis, entitled “Route Distribution Among VRFs In a Single PE,” the decision to distribute a particular route from one VRF to another within a single PE “depends on the route target attribute which is assigned to the route (or would be assigned if the route were distributed by BGP), and the import target of the second VRF.” Such route distribution clearly does not resemble, and certainly does not meet, the recited subject matter of searching an ImpRT tree for a match.

Independent claim 1 also recites, in part: “copying said routes from said sub-RIB into said first VRF table based on all route target attributes configured for said first VRF table, including said modified ImpRT attribute” (emphasis added). RFC-2547-bis clearly does not provide this subject matter because RFC-2547-bis must perform a route refresh to obtain ImpRT attributes from another router. In contrast, Applicant respectfully submits that the recited subject matter describes how ImpRT attributes are copied from a first VRF in a router to a second VRF in the same router.

For the reasons detailed above, Applicant respectfully submits that the Office Action fails to present a *prima facie* case of obviousness for independent claim 1. Thus, Applicant respectfully submits that independent claim 1 is allowable.

Dependent claim 5 recites, in part: “**updating** said ImpRT tree to include an **association** between said modified ImpRT attribute and said first VRF table” (emphasis added). On page 4, the Office Action lumps claim 5 with claim 1 and subsequently fails to address the subject matter recited in claim 5. Moreover, claim 5 depends upon claim 3, instead of directly from claim 1.

In addition, the Office Action fails to properly address the relationship between “maintaining an import route target (ImpRT) tree comprising all ImpRT attributes” in claim 1 and “updating said ImpRT tree” in claim 5. Instead, on page 5, the Office Action simply alleges that “the route is updated to all other BGP speakers.” This completely fails to address the ImpRT tree.

Dependent claim 8 recites, in part: “adding said routes to each VRF table in a **routing database** available at said PE router” (emphasis added). On page 6, the Office Action lumps claim 8 with claim 3 and subsequently fails to address the subject matter of claim 8. In particular, the Office Action fails to consider the recited routing database.

Dependent claim 10 recites, in part: “wherein said master RIB includes **all routes in all VRF tables** at said PE router and further includes **all routes that were filtered out** at said PE router using ImpRT attributes” (emphasis added). On page 4, the Office Action lumps claim 10 with claim 1 and subsequently fails to address the subject matter recited in claim 10. Moreover, claim 10 depends upon claims 9 and 2, instead of directly from claim 1.

Furthermore, Applicant respectfully submits that RFC-2547-bis clearly teaches away from inclusion of “all routes that were filtered out.” As described in Section 4.3.2, “VPN Prune” operations may cause to discard routes. Because RFC-

2547-bis lacks the recited master RIB, the PE router must subsequently "acquire the routes it may previously have discarded."

Dependent claim 12 recites, in part: "deleting all routes that no longer match from the **sub-RIB** of said first VRF table" (emphasis added). On page 6, the Office Action simply lumps claims 11-14 together, failing to address their differing subject matter. In particular, the Office Action ignores the sub-RIB recited in claim 12.


Moreover, Claims 2, 3, 5, and 8-14 depend from claim 1. Thus, Applicant respectfully submits that claims 2, 3, 5, and 8-14 are allowable at least due to their dependencies from an allowable base claim. Accordingly, Applicant respectfully requests withdrawal of the rejections of claims 1-3, 5, and 8-14 under 35 U.S.C. § 103(a).

In the event the fees submitted prove insufficient in connection with the filing of this paper, please charge our Deposit Account Number 50-0578 and please credit any excess fees to such Deposit Account.

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Respectfully submitted,  
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